IN THE CLAIMS:

Cancel claim 2.

1. (currently amended) A purified polypeptide comprising an amino acid sequence selected from the group consisting of:

a) ~~the~~ an amino acid sequence as set forth in ~~of~~ SEQ ID NO:2, and

b) an amino acid sequence ~~a fragment of SEQ ID NO:1~~ comprising ~~the kinesin motor domain from~~ amino acid residue 1 to amino acid residue 340 of SEQ ID NO:2.

2. (cancelled)

3. (currently amended) A pharmaceutical composition comprising ~~a~~ the polypeptide of claim 1 and a pharmaceutically acceptable excipient.

4. (original) A composition of claim 3, wherein the polypeptide has the sequence of SEQ ID NO:2.

5. (currently amended) A method for screening a compound for effectiveness as an agonist of ~~a~~ the polypeptide of claim 1, ~~the method~~ comprising:

a) exposing a sample comprising ~~a~~ the polypeptide of claim 1 to a compound, and

b) detecting agonist activity in the sample.

6. (currently amended) A method for screening a compound for effectiveness as an antagonist of ~~a~~ the polypeptide of claim 1, the method comprising:

a) exposing a sample comprising a polypeptide of claim 1 to a compound, and

b) detecting antagonist activity in the sample.

7. (currently amended) An isolated ~~and purified polynucleotide~~ nucleic acid molecule comprising a sequence of nucleotides ~~encoding a polypeptide comprising an amino acid sequence~~ as set forth in ~~of~~ SEQ ID NO:1.

8. (currently amended) An isolated ~~and purified~~ polynucleotide which hybridizes under conditions of 250 mM NaCl, 25 mM trisodium citrate, 1% SDS, 50% formamide and 200 μg/ml ssDNA at 42°C., and wash conditions of 15 mM NaCl, 1.5 mM trisodium citrate, and 0.1% SDS at 68°C to the sequence of nucleotides as set forth in ~~polynucleotide of~~ claim 7.

9. (currently amended) A method for detecting a nucleic acid molecule having a sequence of nucleotides substantially similar to the nucleic acid molecule of claim 7 ~~polynucleotide~~, the method comprising the steps of:

a) hybridizing the nucleic acid molecule ~~polynucleotide~~ of claim 7 to at least one nucleic acid in a sample, under conditions favoring the formation of ~~thereby forming~~ a hybridization complex; and

b) detecting the hybridization complex, wherein said hybridization is performed at 42°C in a solution containing 250 mM NaCl, 25 mM trisodium citrate, 1% SDS, 50% formamide and 200 μg/ml ssDNA followed by washing at 68°C in a solution of 15 mM NaCl, 1.5 mM trisodium citrate, and 0.1% SDS wherein the presence of the hybridization complex correlates with the presence of the polynucleotide in the sample.

10. (original) The method of claim 9 further comprising amplifying the polynucleotide prior to hybridization.

11. (currently amended) An isolated ~~and purified polynucleotide~~ nucleic acid molecule comprisisng a sequence of nucleotides that encode a polypeptide comprising the amino acid sequence as set forth in SEQ ID NO: 2 ~~comprising the polynucleotide sequence of SEQ ID NO:1~~.

12. (currently amended) An expression vector comprising the ~~polynucleotide~~ nucleic acid molecule of claim 7.

13. (original) A host cell comprising the expression vector of claim 12.

14. (currently amended) A method for producing ~~a~~ the polypeptide of claim 1, ~~the method~~ comprising the steps of:

a) culturing the host cell of claim 13 under conditions suitable for the expression of the polypeptide; and

b) recovering the polypeptide from the host cell culture.

15. (currently amended) A method ~~Method~~ of modulating cellular proliferation in a mammal in need thereof comprising administering to said mammal an amount of the ~~a~~ pharmaceutical composition of claims 3 effective to modulate cellular proliferation, said composition comprising a pharmaceutically acceptable vehicle and a HsCENP-E protein characterized as having an ATP binding site, and a motor domain comprising ~~and~~ an amino acid sequence from amino acid at position 1 through amino acid at position 340 as set forth in SEQ ID NO:2.

16. (currently amended) A method for inhibiting HsCENP-E mediated/induced cellular proliferation of a cell in culture, said method comprising the steps of:

a) providing an oligonucleotide comprising at least 18 contiguous nucleotide bases which are ~~perfectly~~ complementary to a nucleotide base sequence region contained in a nucleic acid sequence as set forth in SEQ ID NO.1, and

b) contacting said cell with said oligonucleotide under conditions such that said oligonucleotide is delivered within said cell and hybridizes with said nucleotide base sequence region, thereby inhibiting HsCENP-E mediated/induced cellular proliferation of said cell.

17. (currently amended) A method of detecting the presence of cancer in an individual comprising:

(a) obtaining a biological sample from said individual;

(b) incubating said biological sample with at least one antibody which is immunoreactive with a gene product encoded by the nucleic acid molecule of Claim 7. ~~comprising the nucleotide sequence as set forth in SEQ ID NO:1~~

(c) detecting immunoconjugates which form as a consequence of the incubation of step (b); and

(d) relating the amount of immunoconjugates of step (c) to the presence of cancer, wherein cancer is present when said amount is greater than a threshold value.

18. (currently amended) ~~An isolated and~~ The substantially purified polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence as set forth in SEQ ID NO:2 ~~encoded by the nucleotide sequence of SEQ ID NO:1~~.

Please add new claims as follows:

19 (New) The substantially purified polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence comprising amino acids at position 1 through 340 of SEQ ID NO:2 .